IN THE CLAIMS:

Please amend the claims as indicated.

1. (previously presented) An isolated fusion molecule comprising a first polypeptide sequence comprising at least 85% identity with an IgG heavy chain constant region capable of specific binding to a native IgG inhibitory receptor, directly functionally connected to a second polypeptide autoantigen sequence comprising at least 90% sequence identity to at least a portion of the amino acid sequence of myelin basic protein (MBP) and capable of specific binding, through a third polypeptide sequence specific for myelin basic protein, to a native IgE receptor.

2. – 3. (canceled)

4. (previously presented) The fusion molecule of claim 1 wherein said autoantigen sequence comprises at least one autoantigenic epitope.

5. (currently amended) The fusion molecule of claim 1, wherein said third polypeptide is an IgE class immunoglobulin.

6. (canceled)

7. - 8. (canceled)

9. (previously presented) The fusion molecule of claim 1 wherein said autoantigen sequence present in said fusion molecule comprises at least a portion of the amino acid sequence of myelin basic protein.

10. (previously presented) The fusion molecule of claim 9 wherein said autoantigen sequence present in said fusion molecule comprises the amino acid sequence of SEQ ID NO:13.

11. (previously presented) The fusion molecule of claim 1 wherein said inhibitory receptor is a low-affinity FcγRIIb IgG receptor.

12. (previously presented) The fusion molecule of claim 11 wherein said IgE receptor is a high-affinity FcϵRI IgE receptor.

13. (previously presented) The fusion molecule of claim 11 wherein said IgE receptor is a low-affinity FcϵRII IgE receptor.

14. (original) The fusion molecule of claim 12 wherein said FcγRIIb and FcϵRI receptors are of human origin.

15. (canceled)

16. (previously presented) The fusion molecule of claim 1 wherein said IgG is selected from the group consisting of IgG_1, IgG_2, IgG_3, and IgG_4.

17. (previously presented) The fusion molecule of claim 1 wherein said IgG heavy chain constant region sequence is the native human IgG heavy chain constant region sequence of SEQ ID NO: 2.

18. (original) The fusion molecule of claim 17 wherein said first polypeptide sequence comprises an amino acid sequence having at least 85% identity to the amino acid sequence of SEQ ID NO: 3.

19. (original) The fusion molecule of claim 18 wherein said first polypeptide sequence comprises an amino acid sequence having at least 90% identity to the amino acid sequence of SEQ ID NO: 3.

Application No.: 10/000,439
Filed: October 24, 2001
Docket No.: 39754-0674A

20. (original) The fusion molecule of claim 19 wherein said first polypeptide sequence comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO: 3.

21. (original) The fusion molecule of claim 20 wherein said first polypeptide sequence comprises an amino acid sequence having at least 98% identity to the amino acid sequence of SEQ ID NO: 3.

22. (original) The fusion molecule of claim 21 wherein said first polypeptide sequence comprises at least part of the CH2 and CH3 domains of a native human IgG_1 constant region.

23. (original) The fusion molecule of claim 22 wherein said first polypeptide sequence additionally comprises at least part of the hinge of a native human IgG_1 constant region.

24. (previously presented) The fusion molecule of claim 23 wherein said first polypeptide sequence comprises at least part of the hinge, CH2 and CH3 domains of a native human IgG_1 heavy chain constant region, in the absence of a functional CH1 region.

25. (original) The fusion molecule of claim 1 wherein said first polypeptide sequence comprises an amino acid sequence encoded by a nucleic acid hybridizing under stringent conditions to at least a portion of the complement of the IgG heavy chain constant region nucleotide sequence of SEQ ID NO: 1.

26. (previously presented) The fusion molecule of claim 1 wherein said first polypeptide sequence and said second polypeptide autoantigen sequence are functionally connected through a linker.

Application No.: 10/000,439
Filed: October 24, 2001
Docket No.: 39754-0674A

27. (original) The fusion molecule of claim 26 wherein said linker is a polypeptide linker.

28. (previously presented) The fusion molecule of claim 27 wherein said polypeptide linker sequence consists of about 5 to about 25 amino acid residues.

29. (previously presented) The fusion molecule of claim 1, wherein said fusion molecule comprises at least one amino terminal ubiquitination target motif.

30. (previously presented) The fusion molecule of claim 1, wherein said fusion molecule comprises at least one proteasome proteolysis signal, wherein said signal is selected from the group consisting of large hydrophobic amino acid residues, basic amino acid residues and acidic amino acid residues.

31. (previously presented) The fusion molecule of claim 27, wherein said polypeptide linker comprises at least one proteasome proteolysis signal, wherein said signal is selected from the group consisting of large hydrophobic amino acid residues, basic amino acid residues and acidic amino acid residues.

32. (previously presented) The fusion molecule of claim 27 wherein said polypeptide linker sequence comprises at least one endopeptidase recognition motif.

33. (previously presented) The fusion molecule of claim 27 wherein said polypeptide linker sequence comprises a plurality of endopeptidase recognition motifs.

34. (previously presented) The fusion molecule of claim 32 wherein said endopeptidase recognition motif is selected from the group consisting of cysteine, aspartate and asparagine amino acid residues.

35. - 39 (canceled)

40. (original) A pharmaceutical composition comprising a fusion molecule of claim 1 in admixture with a pharmaceutically acceptable excipient.

41. (previously presented) A pharmaceutical composition comprising a fusion molecule of claim 9 in admixture with a pharmaceutically acceptable ingredient.

42. (original) An article of manufacture comprising a container, a fusion molecule of claim 1 within the container, and a label or package insert on or associated with the container.

43. (previously presented) An article of manufacture comprising a container, a fusion molecule of claim 9 within the container, and a label or package insert on or associated with the container.

44. (original) The article of manufacture of claim 42 wherein said label or package insert comprises instructions for the treatment or prevention of an immune disease.

45. (withdrawn) A method for the treatment of an autoimmune disease in a subject, comprising administering an effective amount of at least one fusion molecule of claim 3 to said subject diagnosed with or at risk of developing said autoimmune disease.

46. (withdrawn) The method of claim 45 comprising multiple administration.

47. (withdrawn) The method of claim 45 wherein said subject is a human.

48. (withdrawn) The method of claim 45 wherein said autoimmune disease is selected from the group consisting of rheumatoid arthritis, type-I diabetes mellitus, and multiple sclerosis.

Application No.: 10/000,439
Filed: October 24, 2001
Docket No.: 39754-0674A

49. (withdrawn) The method of claim 48 wherein said autoantigen is selected from the group consisting of rheumatoid arthritis autoantigen, multiple sclerosis autoantigen, autoimmune type I diabetes mellitus autoantigen, and portions thereof.

50 - 59 (canceled)